MCESA Observation Tool V1

Business Requirements Specification

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Business Requirements Specification

INTRODUCTION

 The Maricopa County Education Service Agency (MCESA) has undertaken a five-year initiative aimed at improving student learning and achievement by increasing the effectiveness of teachers and principals. Six local school districts are engaged in the Rewarding Excellence in Instruction and Leadership (REIL) initiative, which is funded by a Teacher Incentive Fund grant from the U.S. Department of Education.

A team of education experts (MCESA) will work collaboratively with the six REIL districts to develop and implement rigorous, fair and transparent educator evaluations.

To aid the collection, analysis, and presentation of these data, an Observation Tool will be built for the use of evaluators, MCESA analysts, and others within the scope of this version who will benefit from the tool.   The purpose of the observation data is to calculate 50% of the REIL score, the score on which teachers and principals will be compensated. The Arizona Department of Education is partnering with MCESA to build this tool.

Revision History

Revision	Date	Author	Comments
.01	7/20/2011	H. Schroeder	Draft, working document
.02	7/22/2011	H. Schroeder	2nd draft after peer review
.03	8/2/2011	H. Schroeder	3rd draft after peer review and MCESA input
.04	8/9/2011	H. Schroeder	4th draft after requirements gathering sessions
.05	8/14/2011	H. Schroeder	Revisions based on customer input
.06	08/17/2011	H. Schroeder	Revisions based on MCESA input
.07	08/19/2011	H. Schroeder	Revisions based on MCESA input
.08	08/22/2011	H. Schroeder	Update latest versions of Reference material
.09	8/24/2011	H. Schroeder	Reference material updates: remove Teacher and Principal Capture tool; rename description of Teacher and Principal Capture tool; update Stakeholder area; Functional Requirements: 6.1.4.7: requirement is now that data will be locked upon Submit; Data Requirements: 8: updated document requirement; added reference to the

			Save tab in the Principal Example document; updated version of Principle Sample Reports doc, tab Notes vs Comments
.10	8/24/2011	H. Schroeder	Update Principal Example document in References

PURPOSE AND SCOPE

The purpose of this requirement is to state the business and functional requirements MCESA and ADE officials have specified that are the key features that the Observation Tool should have. It should also have enough detail for development staff to develop detailed requirements and enable creation of other required documentation (test cases, user manuals).

This document lays out the scope of the core functionality, as described in Version 1 of this BRD. As noted in the Core and Enhanced Functions Matrix document in the References section, this product must be scalable to encompass additional functionality. The Matrix only outlines some of these key functions; an additional BRD will give specific details.

GLOSSARY OF TERMS.

DEFINE TERM, ACRONYMS, AND ABBREVIATIONS USED IN THE DOCUMENT.

Term	Definition
Analysis/Stakeholder	Those who will use the data for analysis
Descriptors	Definition of the element at a particular performance level
Element	Sub-domain (e.g., Real-time Assessment in FA rubric)
Evaluators	Persons who will use the Observation-capture tool

Event	This is the specific occurrence of an observation setting/documentation in the Principal Observation Tool
Formative Conference	The first and second formal meeting of a principal with an evaluator.
Formative Cycle Report	Teacher output report provided after every cycle
LEA	Local Education Agency
Leading Observation Instrument	Composed of 5 rubrics, this document is the basis for the principal evaluation
Learning Observation Instrument	Composed of 6 rubrics, this document is the basis for the teacher evaluation
Observation cycle	A complete Evaluation of a teacher composed of the three sessions (Pre, Observation, Post)
Observation Setting/documentation	Applies only to the Principal Tool, this is an evaluation occurrence where the principal's evaluator gathers information. There are 15 types of settings/documentation.
Performance level	The numbers on the top of the rubric (0-5 possible for teachers; 0-4 for principals)
Principal Report	Provided to the principal after every formative and summative conference
Principals, Assistant Principals	Are observed using the Leading Observation Tool
Rubric descriptor	Definition of the rubric
Rubrics	Domain (e.g., Formative Assessment, Content)
Score	Value as a result of a calculation (e.g., Observation score, Rubric score)
Sessions	Pre-conference, Observation, Post-Conference—only applicable to the Teacher Observation Tool
Summative Conference	The third (and final) formal meeting of a principal with an evaluator.
Summative Cycle Report	Final teacher report for the school year
Teachers	Are observed using the Learning Observation Tool
Value	Number assigned to an individual on a particular element/session/rubric

Version	Distinguishes between various releases of the Learning/Leading Observation Instrument

REFERENCES.

Learning Observation Instrument v1.1. (teacher evaluation input)	Learning Observation Instrument_Version_1
Teacher Sample Reports (Output)	Teacher Sample_Reports_Req_
Leading Observation Instrument_Version_1.1 (principal evaluation input)	Leading Observation Instrument_Version_1
Principal Sample Reports(Output)	Principal Sample_Reports_Req_
Matrix to compare key functionality in Core Observation tool and future enhanced functions	Obs Tool Core and Enhanced Functions.xl
Link to video about the Learning Observation Instrument	*http://www.maricopa.gov/Schools/service-home.aspx?sid=1*
Family Educational Rights and Privacy Act (FERPA).	FERPA Regulations.pdf

1. DESCRIPTION OF THE PRODUCT

Product Description and Rationale

The purpose of the Observation Tool is to provide a standardized input solution to gather evaluators' feedback and store it in a data repository to be primarily used to calculate 50% of the REIL score, as well as to provide raw data for other reporting and analysis. This will begin the process of automating what is now a manual paper-based feedback process.

2. Environment

The below diagram indicates how the evaluators will input data which will be stored in the data repository and then accessed by the MCESA analyst and/or BASIS, the third party vendor doing calculations.

Evaluator Input

LEA LEVEL

Evaluator Input

Evaluator Input

Secure Web Interface

Secure Web Interface Access

Analytic User

Extract Transform Load (ETL) Process

ADE Tables (Data Repository)
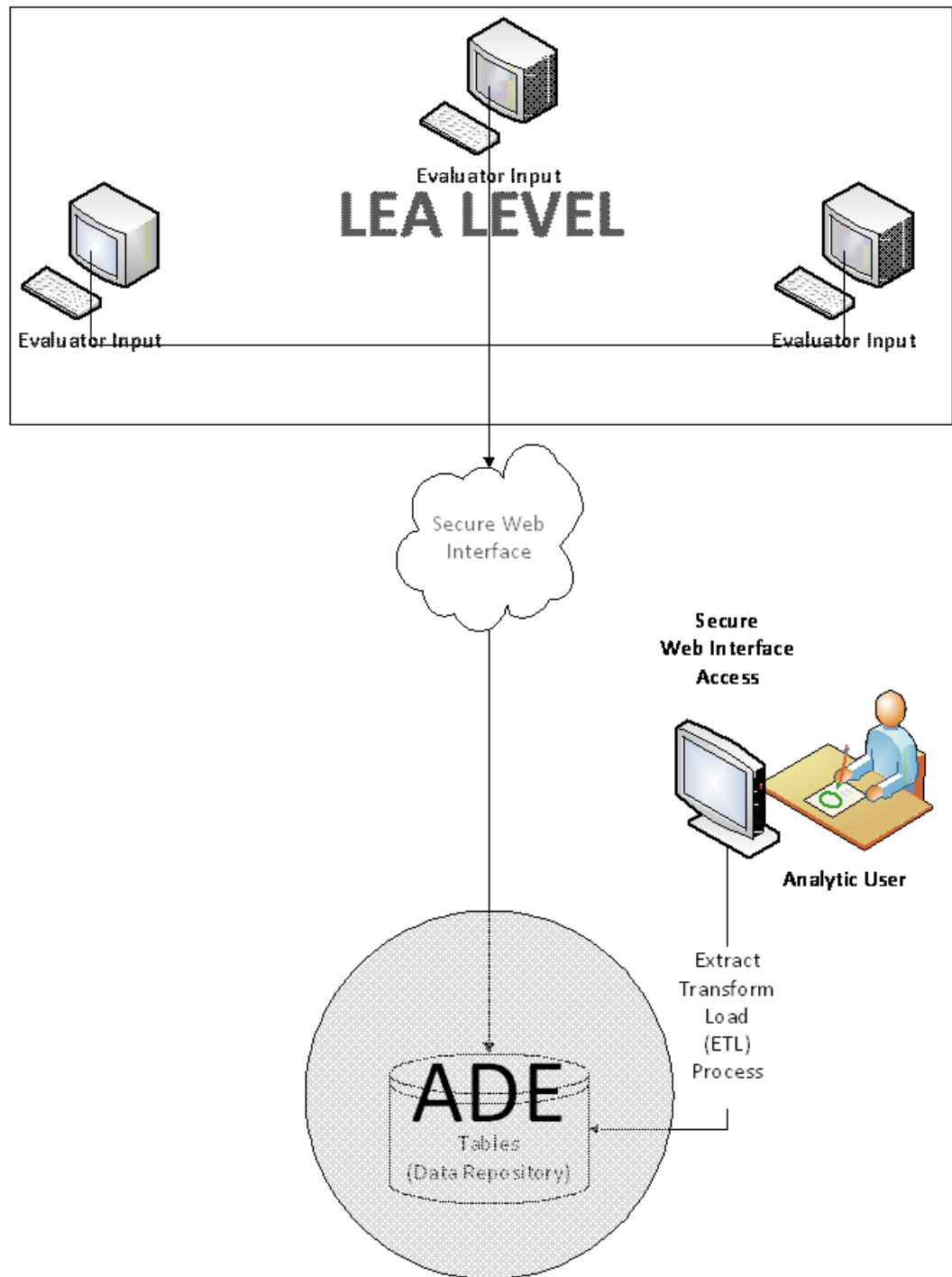
Observation Tool Option #5 For MCESA Evaluation Data updated 8/19/11

3. **User Characteristics**

    3.1   <u>Evaluators</u>. All evaluators are being trained in the observation process. Needed are basic computer skills.

    3.2   <u>Analytic user</u>. The user of this data directly from the data repository (MCESA analyst) is well-versed in extracting data from a database and reporting and doing calculations on the data.

4. **General Constraints**

    4.1   By limiting who has access to types of information by using identity management, the product will comply with the Family Educational Rights and Privacy Act (FERPA).

    4.2   To standardize on the same platform, the product should be built to work on the most current MS Internet Explorer and Safari browsers.

    4.3   Hardware and infrastructure: the underlying computing capability and Database Management System (DBMS) must be capable of storing and processing over 16,000 evaluations over the school year, and be scalable to increase yearly. It must be capable of handling periods of peak loads when between 100-300 users may be accessing the system at once. Three hundred evaluators is the maximum number for Version 1, but the product should be scalable for future growth.

    4.4   Interfaces should be compatible to existing ADE system

    4.5   All human-readable printed output reports should be in .PDF format

5. **Assumptions and Dependencies**

    5.1   Evaluator will take notes on paper then transfer numeric values and any other needed data to a secure web interface which will then be saved and/or submitted to ADE data repository

    5.2   There will be resource(s) to create the data interface, ETL process, and any infrastructure needs (development, DBMS) and to maintain it. This may include the processes of sign-up (for new users), making connections between evaluators and their subjects of evaluation, maintenance, and security.

    5.3   Teachers will be evaluated by:
        5.3.1 Assistant principals
        5.3.2 Principals
        5.3.3 Peer evaluators
        5.3.4 District office personnel
        5.3.5 Instructional coaches

    5.4   Principals and assistant principals will be evaluated by:
        5.4.1 Assistant superintendents
        5.4.2 Superintendents
        5.4.3 Field specialists
        5.4.4 District office personnel

    5.5   Version 1 of this tool encompasses the 2011-2012 school year and should accept data from teacher and principal evaluations within the policy and practices of the REIL grant.

    5.6   Teachers will be evaluated two (2) times during the 2011-2012 school year. In 2012-2013 and beyond, this will increase to five times a year.

    5.7   Principals will have a yearlong evaluation with 2 formative conferences and 1 summative conference between the evaluator and the principal. Evaluator will need to print out a report 3 times during the school year.

    5.8   Database must be able to hold components of the Observation Tool inputs as defined in this document.

    5.9   Charter schools are not included

6. FUNCTIONAL REQUIREMENTS

6.1. Function 1: Evaluator data input

6.1.1 Evaluator (user) goes to address of secure web site

6.1.2 Using standard authentication techniques, system allows user to login if the proper username and password have been entered

6.1.3 Evaluator enters data into a web interface

6.1.4 Options:

    6.1.4.1 Save data at ADE repository for future submission by using SAVE button

    6.1.4.2 If user has completed his/her work, s/he may logoff at step 6.1.5

    6.1.4.3 To edit previously saved report [assuming not locked down], select person being evaluated, evaluation date and other qualifiers, and hit SELECT button

    6.1.4.4 Revise previous evaluation, then click on SAVE button

    6.1.4.5 If minimum required values have been entered for the evaluation, the SUBMIT button should be enabled and allow user to click it to SUBMIT

    6.1.4.6 If the user did not enter sufficient values to SUBMIT, then the SUBMIT button should be disabled (greyed out) and only the SAVE button will be operable

    6.1.4.7 If SUBMIT button is clicked, a status message should appear on the screen ["SUBMIT" results in flag as "Submitted" on the database with a timestamp; data is locked and cannot be changed by the user]. A system administrator (not to be confused with a school/district administrator) should have the ability to override the lock out of data. Any overrides must be tracked.

    6.1.5 If the user has completed the SAVE or SUBMIT operation, s/he may logout of the system

6.2. Function 2: Analytic user data retrieval

6.2.1 Analytic user (user) should be able to:

    6.2.1.1 Login

    6.2.1.2 Generate output in a .csv, .txt, tab-delimited, .xls, XML format with descriptive headers

6.3 Function 3: Evaluator print report for teacher or principal

6.3.1 Evaluator (user) needs to be able to access teacher/principal report and print it out in .PDF format for the teacher or principal to review and sign-off

6.4 Tool Behaviors

6.4.1 Hover over/tool tip for elements and rubrics (If tool tip not available, provide link to the descriptors for each rubric and element)

6.4.2 Hover over/tool tip for Principal Documentation setting and documentation (tool tip should provide the definition of the Observation setting/documentation (e.g., Leadership Team Meeting).

6.4.3 Rubrics and elements can expand and collapse

7. PERFORMANCE REQUIREMENTS

7.1 The system needs to be accessible 24x7 except for scheduled maintenance

7.2 The system should have data backup and restore capabilities and plans and ADE's DR plan

7.3 The Rubrics will be displayed as they are, including color coding, in the MCESA reference documents (e.g., Learning Observation Instrument)

8. **DATA REQUIREMENTS**

   A. Common attributes across Teacher and Principal Tools
      1. Each Rubric will be composed of multiple elements the evaluator will report on (e.g., in the Content Rubric, an element is Conceptual Understanding)
      2. Demographic elements (elements in **bold** are required):
         a. **Evaluator and person being evaluated**: Teacher, Principal, Assistant Principal
            i. **Last name**
            ii. **First name**
            iii. Middle initial
            iv. **Unique ID (should have an EducationStakeholderID; if do not have that ID need to get an EducationStakeholderID)**
            v. **Validated school Entity ID and name**
            vi. **Validated District Entity and Name**

   B. Attributes for the Learning Observation Tool

      Refer to Learning Observation Instrument v1.1 and Teacher Sample Reports Req documents

      1. Date of session
      2. Timestamp of SUBMIT time
      3. Observed subject (e.g., Math)
      4. Observed grade (e. g., Grade 5)
      5. Assignment (e.g., 3rd Grade, PE, Music)
      6. Type of session (pre or post-conference, or observation)
      7. There are six Rubrics. Of these, five Rubrics will be captured and used for calculation. The Professional Responsibilities Rubric will capture data entered, but no values entered will be used to calculate the REIL score. If data is entered into this Rubric, it should be displayed on reports, along with Total Points Possible. If no data entered for this Rubric, then the Total Points Possible for this Rubric should not be included on the report.
      8. Each element may be assigned a value from 5 (highest) to 0
      9. Each element can receive a value during up to 2 out of 3 different sessions in the observation cycle. The MCESA document shows by color codes, which of the sessions is applicable to be populated for the element. For example, in the Content Rubric and element Conceptual Understanding, a value can only be entered for an Observation session.
      10. Refinement (text) after every observation cycle, indexed to one Rubric and one Element
      11. Reinforcement (text) after every observation cycle, indexed to one Rubric and one Element
      12. Educator Goal (text) after every observation cycle, indexed to two Rubrics and three Elements
      13. Evaluator notes and comments:
          a. For the Teacher's evaluation, one 128-char comment text box per rubric. Both evaluator and teacher can see
          b. An unlimited character notes text box is for evaluator's use only and is NOT to be displayed on the teacher's output report
          c. Need to be archived (rolled over to the following year)
      14. Educator Goal Met: a check box (Yes/No option)
      15. For the Formative (non-final) reports:
          a. For a complete Observation Cycle, indicate whether it is a Pre-observation, an Observation, or Post-observation session

    b.   For the session, for each element within a rubric, there will be a numeric value, summed into the Sum column. The next column to the right will indicate the total sum of points possible for that element in the Rubric. The next set of columns will show the total sum of all values for the elements in that Rubric, and the total possible points for that Rubric. Under the last Rubric, display grand total of points achieved for all Rubrics and total possible points for all Rubrics.

    c.   Text areas to display: [256 char text for: Refinement, Reinforcement, Educator Goal (mapped from the input Observation Tool)], and wording and space for: Evaluator Name, Signature, Teacher Name and Signature, Date.]

16. For the Summative (final) reports:
    a.   Indicate the Rubric
    b.   Next, the column heading should indicate the cycle number
    c.   The next two columns should show the sum of the values for the Rubric followed by the total possible points for that Rubric.
    d.   Repeat the two column set for additional cycles (there should be room for a maximum of five cycles).
    e.   All columns should be summed and their results placed under the last row entry.
    f.   With a row heading of "Summative Total", the grand total of all points achieved should be added and displayed to the right of the column totals, along with the grand total of all possible points.
    g.   Text areas to display: Refinement, Reinforcement, Educator Goal (mapped from the input Observation Tool), Educator Goal Met? Check box (yes/no) and wording and space for: Evaluator Name, Signature, Teacher Name and Signature, Date.

C.   Attributes for the Principal Observation Tool

      Refer to Principal Sample Reports Req and Leading Observation Instrument_Version_1.1 documents

1. Date of event
2. Timestamp of SUBMIT time
3. There are a total of five Rubrics to be measured and all are included in the final sum and calculations
4. There will be multiple Elements per Rubric, each of which can contain a value of 4 (highest) to 0
5. Each Element must have at least two values over the course of the school year, no maximum
6. Each Event must have at least two values, no maximum
7. Each Observation setting must have a minimum of two events and a maximum of three events
8. Each Documentation must have a minimum of two events and a maximum of three events; except for Parent, Teacher, and Student surveys, which will have a minimum of one event and maximum of three
9. See tab "Example of Save" in the Principal Sample Report workbook
10. Not all Elements are eligible to be scored in each setting in the Principal Sample Report workbook
11. Text box of 256 for comments for both Evaluator and Principal to see
12. Educator Goal Met: a check box (Yes/No option)
13. To the right of all the values for the different events are the following arithmetic functions for each Element:
    a.   Minimum
    b.   Maximum

        c.   Mode
        d.   Mean
        e.   Number of values for each element
14. Formative/Summative conference review sheet (text) would be headed by Principal Name; School/Assignment, and Date of Formative or Summative Conference
        a.   Three columns under would be:
            i.   Observation Setting
           ii.   Date
          iii.   Comments-256 characters max
        b.   Footer would include
            i.   Name of evaluator and space for signature
           ii.   Name of principal and space for signature
          iii.   Date
        c.   Text areas to display: 256 char text for: Refinement, Reinforcement, Educator Goal (mapped from the input Observation Tool)

9. NON-FUNCTIONAL REQUIREMENTS

1   Interface/access for DBA/DA to maintain database; to lock it down at some point to prevent further evaluation inputs (such as near the end of the school year)

2   Input tool (including DBMS) shall capture these data elements as specified in the Data Requirements section

STAKEHOLDER SIGNOFFS

Version	Date	Name / Stakeholder	Unit	Form of Approval
		Lori Renfro	MCESA	
		Kristine Morris	MCESA	
		Al Dullum	MCESA	
		Anabel Aportela	MCESA	
		David Plouff	ADE	
		Linda Jewell	ADE	
		Mark Svorinic	Guru Assoc.	

APPENDIX

Workflow

	Number	Number of Cycles				Evaluated by:	Observation Instrument (Rubrics)
		Year 2	Year 3	Year 4	Year 5	2011-2015	2011-2015
		2011-2012	2012-2013	2013-2014	2014-2015		
Teachers	3000	2	5	5	5	Principals, Peer Evaluators,Instructional Coaches, District Office	Learning Observation Instrument
Principals	175	3	3	3	3	Superintendent, Asst. Superintendent, Field Specialists, District Office personnel	Leading Observation Instrument
Peer Evaluators	50	0	3	3	3	Field Specialists	Peer Evaluator Instrument
Master Educators	520	0	3	3	3	Principals, District Office personnel	Learning Observation Instrument/Peer Evaluator Instrument

Resources

Category	Number
Teachers	3000
Principals	175
Peer Evaluators	50
Instructional Coaches	16
Master Educators	520
Superintendent/Asst	50
District Office personnel	30
Field Specialists	6
MCESA Other	10